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<110> Noriyuki, Sato
Sumitomo Pharmaceuticals Co., Ltd.

<120> Tumor antigen proteins and its use

<130> 533618

<150> JP 2002-282345

<151> 2002-09-27

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<170> PatentIn Ver. 2.1

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Met Ala Ser Val Leu Ser

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Arg Arg Leu Gly Lys Arg Ser Leu Leu Gly Ala Arg Val Leu Gly Pro

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| Glu | Gly | Ala | Ala | Pro | Gln | Pro | Phe | Thr | Thr | Ser | Asp | Asp | Thr | Pro | Cys | |
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| Gln | Glu | Gln | Pro | Lys | Glu | Val | Leu | Lys | Ala | Pro | Ser | Thr | Ser | Gly | Leu | |
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| cag | cag | gtg | gcc | ttt | cag | cct | ggg | cag | aag | gtt | tat | gtg | tgg | tac | ggg | 594 |
| Gln | Gln | Val | Ala | Phe | Gln | Pro | Gly | Gln | Lys | Val | Tyr | Val | Trp | Tyr | Gly | |
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| Arg | Asn | Ile | Asp | Val | Pro | Lys | Arg | Lys | Ser | Asp | Ala | Val | Glu | Met | Asp | |
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| Ser Pro Pro His Pro Gln Ala Ser Pro Lys Tyr Leu Gly Asp Ala Phe | | | |
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| Gly Ser Pro Gln Thr Asp His Gly Phe Glu Thr Asp Pro Asp Pro Phe | | | |
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| ctg ctg gac gaa cca gct cca cga aaa aga aag aac tct gtg aag gtg | | | 1170 |
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| Met Tyr Lys Cys Leu Trp Pro Asn Cys Gly Lys Val Leu Arg Ser Ile | | | |
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| Val Gly Ile Lys Arg His Val Lys Ala Leu His Leu Gly Asp Thr Val | | | |
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| gac tct gat cag ttc aag cgg gag gag gat ttc tac tac aca gag gtg | | | 1314 |
| Asp Ser Asp Gln Phe Lys Arg Glu Glu Asp Phe Tyr Tyr Thr Glu Val | | | |
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| cag ctg aag gag gaa tct gct gct gct gct gct gcc gca ggc | | | 1362 |
| Gln Leu Lys Glu Glu Ser Ala Ala Ala Ala Ala Ala Ala Ala Gly | | | |
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| acc cca gtc cct ggg act ccc acc tcc gag cca gct ccc acc ccc agc | | | 1410 |
| Thr Pro Val Pro Gly Thr Pro Thr Ser Glu Pro Ala Pro Thr Pro Ser | | | |
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Met Thr Gly Leu Pro Leu Ser Ala Leu Pro Pro Pro Leu His Lys Ala
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cag tcc tcc ggc cca gaa cat cct ggc ccg gag tcc tcc ctg ccc tca 1506
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 Gly Ala Leu Ser Lys Ser Ala Pro Gly Ser Phe Trp His Ile Gln Ala
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 Asp His Ala Tyr Gln Ala Leu Pro Ser Phe Gln Ile Pro Val Ser Pro
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 His Ile Tyr Thr Ser Val Ser Trp Ala Ala Ala Pro Ser Ala Ala Cys
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 Ser Leu Ser Pro Val Arg Ser Arg Ser Leu Ser Phe Ser Glu Pro Gln
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 Gln Pro Ala Pro Ala Met Lys Ser His Leu Ile Val Thr Ser Pro Pro
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cgg gcc cag agt ggt gcc agg aaa gcc cga ggg gag gct aag aag tgc 1794
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 Arg Lys Val Tyr Gly Ile Glu His Arg Asp Gln Trp Cys Thr Ala Cys
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 Arg Trp Lys Lys Ala Cys Gln Arg Phe Leu Asp
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| Pro | Ser | Glu | Pro | Leu | Leu | Glu | Gly | Ala | Ala | Pro | Gln | Pro | Phe | Thr | Thr |
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| Ser | Asp | Asp | Thr | Pro | Cys | Gln | Glu | Gln | Pro | Lys | Glu | Val | Leu | Lys | Ala |
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| His | Ser | Trp | Met | Glu | Gly | Gln | Val | Thr | Val | Trp | Leu | Leu | Glu | Gln | Lys |
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| Leu | Gln | Val | Cys | Cys | Arg | Val | Glu | Glu | Val | Trp | Leu | Ala | Glu | Leu | Gln |
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| Ala | Tyr | Arg | Pro | Val | Ser | Arg | Asn | Ile | Asp | Val | Pro | Lys | Arg | Lys | Ser |
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| Phe | Ser | Ala | Ser | Arg | Ala | Ala | Cys | Asp | Pro | Trp | Lys | Glu | Ser | Gly | Asp |
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| Ile | Ser | Asp | Ser | Gly | Ser | Ser | Thr | Thr | Ser | Gly | His | Trp | Ser | Gly | Ser |
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| Tyr | Leu | Gly | Asp | Ala | Phe | Gly | Ser | Pro | Gln | Thr | Asp | His | Gly | Phe | Glu |
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| Thr | Asp | Pro | Asp | Pro | Phe | Leu | Leu | Asp | Glu | Pro | Ala | Pro | Arg | Lys | Arg |
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 His Leu Gly Asp Thr Val Asp Ser Asp Gln Phe Lys Arg Glu Glu Asp
 305 310 315 320
 Phe Tyr Tyr Thr Glu Val Gln Leu Lys Glu Glu Ser Ala Ala Ala
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 340 345 350
 Pro Ala Pro Thr Pro Ser Met Thr Gly Leu Pro Leu Ser Ala Leu Pro
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 Pro Pro Leu His Lys Ala Gln Ser Ser Gly Pro Glu His Pro Gly Pro
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 Glu Ser Ser Leu Pro Ser Gly Ala Leu Ser Lys Ser Ala Pro Gly Ser
 385 390 395 400
 Phe Trp His Ile Gln Ala Asp His Ala Tyr Gln Ala Leu Pro Ser Phe
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 Gln Ile Pro Val Ser Pro His Ile Tyr Thr Ser Val Ser Trp Ala Ala
 420 425 430
 Ala Pro Ser Ala Ala Cys Ser Leu Ser Pro Val Arg Ser Arg Ser Leu
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 Ser Phe Ser Glu Pro Gln Gln Pro Ala Pro Ala Met Lys Ser His Leu
 450 455 460
 Ile Val Thr Ser Pro Pro Arg Ala Gln Ser Gly Ala Arg Lys Ala Arg
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<212> DNA

<213> Homo sapiens

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<223> Description of Artificial Sequence:Synthetic Peptide

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Leu Pro Leu Ser Ala Leu Pro Pro Pro Leu
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<210> 36

<211> 10

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<223> Description of Artificial Sequence: Synthetic Peptide

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Val Gly Ile Lys Arg His Val Lys Ala Leu
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<210> 37

<211> 10

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Asn Ser Val Lys Val Met Tyr Lys Cys Leu
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Gln Gly Pro Cys Pro Gln Ala Pro Pro Leu
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1 5 10

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<210> 45

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Gln Pro Ala Pro Ala Met Lys Ser His Leu

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10

<210> 46

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Cys Thr Ala Cys Arg Trp Lys Lys Ala Cys Gln Arg

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<210> 47

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Cys Thr Ala Cys Arg Trp Lys Lys Ala

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22/24

<212> PRT

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Thr Ala Cys Arg Trp Lys Lys Ala Cys
1 5

<210> 49

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Ala Cys Arg Trp Lys Lys Ala Cys Gln
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<210> 51

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23/24

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1 5 10